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FOLIICOLOUS LICHENS FROM AUSTRALIA

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Summary

Few records of foliicolous lichens from Australia have been published. Records in the present paper are based primarily on collections from New South Wales and Queensland by the junior author. *Anisomeridium foliicola* R. Sant. & Tibell and *Phyllobathelium nigrum* R. Sant. & Tibell are described as new. The new combination *Phylloporis obducta* (Muell. Arg.) R. Sant. & Tibell is proposed. In all 66 species of foliicolous lichens are included, 28 of them being newly recorded from Australia. The genera *Badimia, Calenia, Lasioloma, Loflammia, Microtheliopsis, Phyllobathelium* and *Raciborskiella* are new to Australia. A few comments on the ecology and distribution of the species are also given.

The obligately foliicolous lichens occur mainly in rainforests in tropical and subtropical areas, although a few species also extend into temperate areas. Many species are very widely distributed and in suitable habitats foliicolous lichens are very abundant. Numerous non-lichenized fungi and fungi occurring as parasites or parasymbionts on these lichens also add to the diversity of these societies. Santesson in 1952 revised the foliicolous lichens on a world-wide basis. During the last few decades a large number of new foliicolous species and genera have been described mainly by Vĕzda and Serusiaux. Among the many papers on foliicolous lichens that have appeared, however, only two have dealt with species from Australia (cf. below).

Materials and Methods

The present paper is based on material collected in Queensland and New South Wales by the junior author in 1981 and 1983. The material is deposited in UPS. Duplicates have been distributed to CBG and MEL. In addition some material from G has been investigated. Material collected by K. Kalb mentioned under *Anisomeridium foliicola*, is kept in the private herbarium of Kalb (Neumarkt/Opf.).

Historical Review

The first foliicolous species to be recorded from Australia was *Strigula complanata* (Fée) Mont. (Bailey 1881). This record is based on specimens of *S. elegans* (Müller-Argoviensis 1895: 450; Santesson 1952: 170, 194). Other early records are *Byssoloma leucoblepharum* (as *Lecidea leucoblephara*) by Shirley (1889) and *Sporopodium phyllocharis* var. *flavescens* (as *Lecidea phyllocharis*, Shirley 1890). A few species were subsequently reported by Müller-Argoviensis (*Dimerella zonata*, as *Biatorinopsis zonata*, 1890; *Strigula elegans*, 1895) and one by Bailey (*Porina epiphylla*, 1895). Santesson (1952) reported 35 species. These records were mainly based on material collected by Greta and G. Einar DuRietz in 1927 and kept in S. Filson (1965) reported *Bacidia leucoloma* (Muell. Arg.) Zahlbr. as a foliicolous species, but this material has not been checked by us. In 1975 W. Weber distributed *Porina epiphylla* and *Strigula elegans* (with some *S. nemathora* as admixture) in Lich. exs. COLO, fasc. 10, n. 370–371. All these, however, had been listed previously by Santesson (1952). Conran and Rogers (1983) reported 13 foliicolous lichens from *Wilkiea* leaves from southern Queensland. *Strigula complanata* (Fée) Mont. and *Tricharia albostrigosa* R. Sant. were reported as new records for Australia, but material of these species has not been seen by the senior author, although it was stated in Conran and Rogers' paper that most of the identifications had been verified by him. A species of the *Opegrapha lambinonii* group was reported from Queensland (Davies Creek, Weber) by Serusiaux (1985: 23), but was too scanty or poorly developed to be identified. In the checklists of Australian lichens (Filson 1983, 1986) *Strigula complanata* (Fée) Mont. and *S. glazioui* Muell. Arg. are listed. The citation of the former species is based on a statement in Bailey (1881) but the Bailey material (n. 783 and 535) belongs to *Strigula elegans* (Santesson 1952: 170, 194). The indication of *S. glazioui* is based on Müller-Argoviensis (1895: 450). The material, however, is a more or less unlichenized alga of the genus *Cephaleuros* (Santesson 1952: 144). The identity of *Bacidia cinnamomea* (Krempelh.) Vainio (name illegitimate) reported from New South Wales, is somewhat uncertain. No material has been checked by us. A list comprising all 66 species of foliicolous lichens from Australia seen by us is provided at the end of the paper. In the present paper 28 species and seven genera are newly reported for Australia.

Ecology and Distribution

Although the foliicolous lichens seem to depend more on microclimatic factors than host species, information on the substrate may be helpful in finding suitable habitats and indicative for local ecological conditions. The material was in part collected from undetermined plants, but the following hosts were identified and the associated foliicolous lichen species are indicated.

Acronychia pubescens: *Aulaxina dictyospora, Gyalectidium filicinum, Tapellaria phyllophila, Trichothelium minus.*

Akania lucens: *Gyalectidium filicinum, Porina impressa, P. semecarpi, Trichothelium minus.*

Araucaria cunninghamii: *Byssoloma subdiscordans.*

Bosistoa floydii: *Dimerella fallaciosa, Porina fulvella, Raciborskiella janeirensis, Strigula nitidula.*

Calamus muelleri: *Byssoloma leucoblepharum, B. subdiscordans, Calopadia fusca, C. puiggarii, Echinoplaca epiphylla, Fellhanera dominicana, Mazosia phyllosema, Opegrapha puiggarii, Phylloporis phyllogena, Porina epiphylla, P. impressa, P. limbulata, P. nitidula, P. semecarpi, Trichothelium minus.*

Cordyline sp.: *Arthonia cyanea, Lasioloma arachnoideum, Mazosia phyllosema, Strigula subtilissima.*

Cryptocarya laevigata var. **bowiei:** *Sporopodium phyllocharis.*

Denhamia pittosporoides: *Aulaxina dictyospora, Calopadia puiggarii, Gyalectidium filicinum, Porina semecarpi, Sporopodium phyllocharis, Strigula subtilissima, Trichothelium minus.*

Diospyros pentamera: *Calopadia puiggarii, Lasioloma arachnoideum, Porina epiphylla, P. nitidula.*

Linospadix monostachya: *Bacidia apiahica.*

Lomandra sp.: *Porina epiphylla.*

Macrozamia sp.: *Byssoloma subdiscordans.*

Ripogonum discolor: *Aulaxina dictyospora, Bacidia pallidocarnea, Byssoloma leucoblepharum, Calopadia fusca, C. puiggarii, Fellhanera semecarpi, Gyalectidium filicinum, Mazosia melanophthalma, Opegrapha puiggarii, Phylloporis multipunctata, P. obducta, Porina epiphylla, P. impressa, P. semecarpi, Strigula subtilissima, Tapellaria phyllophila, Trichothelium minus.*

Sarcopetalum harveyanum: *Phylloporis phyllogena, Porina fulvella, P. semecarpi.*

Sarcopteryx stipata: *Strigula elegans.*

Wilkiea sp.: *Gyalectidium filicinum, Mazosia melanophthalma, Porina epiphylla, P. fulvella, P. impressa, P. semecarpi, Sporopodium phyllocharis, Strigula macrocarpa.*

A large proportion of the foliicolous species are pantropical or else widely distributed. Among the species known only from comparatively limited areas several may simply have been overlooked in other areas, and may in fact also have wide distributions. A very rough grouping of the 66 species accepted as occurring in Australia in the list below with respect to distribution types is given here.

Pantropical species: **48**

Species widely distributed, but not known from Neotropica: **3**

Species occurring in Neotropica and Australasia: **4**

Species occurring in Africa, Southeast Asia and Australasia: **3**

Species occurring in Southeast Asia and Australasia: **7**

Endemic to Australia: **1** (*Porina impressa*)

Thus the overwhelming majority of the species (73%) are pantropical, three further species (5%) also have very wide distributions, while only 14 (21%) have a comparatively limited distribution area and one only (2%) is endemic to Australia. The records given in this paper extend the distribution areas of taxa previously known to have wide distributions. *Aulaxina dictyospora*, *Fellhanera dominicana* and *Trichothelium minus* are remarkable, since they have previously only been reported from Neotropica.

Annotated List of Foliicolous Lichens from Australia

Some species previously reported for Australia were not collected by the junior author, but are for completeness included in the following list. Unless indicated, previous reports on occurrence (localities etc.) are to be found in Santesson (1952).

Species newly reported for Australia are marked **, those newly reported for Queensland or New South Wales are marked *.

**Anisomeridium foliicola R. Sant. & Tibell, sp. nov.

Thallus tenuissimus, continuus, laevigatus, glaucocinereus. Perithecia 0.2–0.3 mm diametro, verrucas formantia hemisphaericas, nigra. Paraphyses ramoso-connexae. Asci bitunicati, cylindrici. Sporae monostichae, ellipsoideae, 1-septatae, cellula apicali crassiore et paulo longiore, 13–14.5 µm × 4.5–5.5 µm. Pycnidia subimmersa, nigra, 0.10–0.15 mm diametro, strato albido partim obducta. Conidia simplicia, globosa vel ovoidea, 4.5–5.0 µm × 3.5–4.5 µm. Alga (verosimiliter) ad Phycopeltem pertinens. **Fig. 1.**

Typus: Ivory Coast, cercle of Man, 6–7 km NNE of Tai. Alt. c. 150–200 m. On leaves of *Raphia* in rainforest. 5 August 1954, *R. Santesson* 10455 (holo: UPS).

Thallus round or somewhat irregular in outline, usually up to 8–10 mm across, continuous, greenish grey, matt or slightly nitidous, 10-20 µm thick. Hypothallus well developed, brown, forming a 0.2–0.8(–2.5) mm broad border. Perithecia rare, 0.2–0.3 mm diameter, hemispherical, not constricted at the base, the black wall naked or partly covered by a greenish grey thallus tissue. Outer wall of perithecium (involucrellum) brownish black, spreading at the base, inner wall dark brown also at the base. Hamathecium and asci I-. Paraphyses branched and anastomosing, c. 1 µm thick. Asci cylindrical, their apical wall thick and with a small ocular chamber, 70–90 µm × 7–8 µm. Spores 8, uniseriate, 1-septate, colourless, more or less ellipsoid with unequal cells, the upper cell somewhat broader and longer than the lower, without ornamentation, 13.0–14.5 µm × 4.5–5.5 µm. Pycnidia common, 0.10–0.15 mm in diameter, semi-immersed, brownish black and with a dark basal tissue, with a whitish grey tissue on the sides and often also partly on the tops and with 4–6 lateral protuberances forming a more or less star-like figure. Conidia (microconidia?) simple, globose to broadly ovoid, 4.5–5.0 µm × 3.5–4.5 µm. Photobiont probably a *Phycopeltis* species with angular or rounded cells, 7–15 µm × 6–8 µm.

Australian specimens: Queensland. COOK DISTRICT: Atherton Tableland, 18 km E of Atherton, Lake Eacham, 17°17′S, 145°37′E, alt. c. 720 m, in montane rainforest, 1983, *Tibell* 15385; Atherton Tableland, 15 km E of Malanda, close to Bora Ground, 17°22′S, 145°45′E, alt. c. 700 m, 1983, *Tibell* 15373.

Additional material investigated: Cuba. Prov. Oriente: Bayate, 1917, *Ekman* L130a (S). **Guadaloupe.** Duclos, 1953, *Le Gallo* 24 (UPS); Prise d'Eau, 1952, *Le Gallo* 1,52 (UPS); Sofaia, 1951, *Le Gallo* 6 (UPS). **Grenada.** Grand Etang, Chillybrook, St. Andrew Road, *Thaxter* (UPS). **Guatemala.** Dept. Izobal: Escoba, across the bay (west) from Puerto Barrios, 1939, *Standley* 73023 (UPS); Petén, near Tikal, 1981, *Kalb* 73. **Venezuela.** El Limon, valle de Puerto La Cruz, 1928, *Sydow* 239b *bis* (UPS). **Guyana.** Akyma, Demerarara River, above Wismar, 5°09′N, 1920, *Hitchcock* 17450 *bis* (UPS). **Brazil.** Matto Grosso: 35 km SW of Cuiba, on the river Arica-Acu, 1980, *Kalb* 273. Para: near Belem, 1980, *Kalb* †311. Sao Paulo: Santos, 1894, *Malme* †4003 (S); Grande Anel Rodoviario, between Via dos Imigrantes and Via Anchieta, 1979, *Kalb* †149; Ilha Comprida near Cananeia, 1979, *Kalb* 163;

Ilha de Sao Sebastiao, 130 km E of Sao Paulo, W slope of Mt. Morro das Tacas, 1979, *Kalb* 155, 156 & *Poelt*; Praia de Pernibe, near Itanhaém, 1978, *Kalb* 46, 229; Serra da Cantareira, 30 km N of Sao Paulo, 1978, *Kalb* 42 & *Hannack*; Serra do Mar, Serra do Garraozinha, between Mogi Gruzes and Bertioga, 1978, *Kalb* 53 & *Plōbst*; ditto, 1979, *Kalb* †148; ditto, 1980, Kalb †308; Serra do Mar, Serra de Maresias, Ribeirao Maresias near Maresias, 30 km W of Sao Sebastiao, 1980, *Kalb* 211; Serra do Mar, Serra de Paranapiacoba, 60 km SW of Sao Paulo, above Inquitiba, 1980, *Kalb* 233. **Peru.** Dept. Cuzco, Paucartambo, c. 3 km S of Pillcopata, 1981, *Santesson, Tehler* & *Thor* P101: 23 (S). **Ivory Coast.** Adiopodomé, 7 km W of Abidjan, at the institute of IDERT, 1954, *Santesson* 10321b (UPS); Cercle of Agboville, the forest of Yapo, 45 km N of Abidjan, 1954, *Santesson* 10357a, 10359a (UPS); Cercle of Man, 6–7 km NNE of Tai, 1954, *Santesson* 10543:1a, †10455, 10459a, 10462: 2a (UPS). **Fiji Islands.** Viti Levu: Serua, hills W of Waivunu Creek, 1953, *Smith* †9233 (US); Ovalau, hills E of Lovoni valley, 1953, *Smith* 7265 (UPS). **New Guinea.** NE New Guinea, Sepik River, Yessan, 1929, *Herre* (UPS); Monrobe, Boana, 1940, *Clemens* (UPS). [† = fertile specimen].

Distribution: *Anisomeridium foliicola* is a pantropical species. It is now known from 30 localities (in 40 collections), but only seven specimens (from Brazil, Ivory Coast and Fiji) bore perithecia.

Notes and Observations: This the first *Anisomeridium* species reported to be foliicolous. More than 15 species of the genus are known, most of them being corticolous, but some are saxicolous. *A. foliicola* is characterized by the very thin but continuous thallus, the cylindrical asci with uniseriately arranged, smooth spores and especially by the pycnidia that partly are covered by a whitish thallus tissue and have a more or less star-like top. Also some other species in *Anisomeridium* have characteristic pycnidia, e.g. *A. nyssaegenum* (Ellis & Everhart) R.C. Harris with pycnidia of the *Sarcinulella*-type (Sutton & Alcorn 1983. *Sarcinulella banksiae* was described from Queensland).

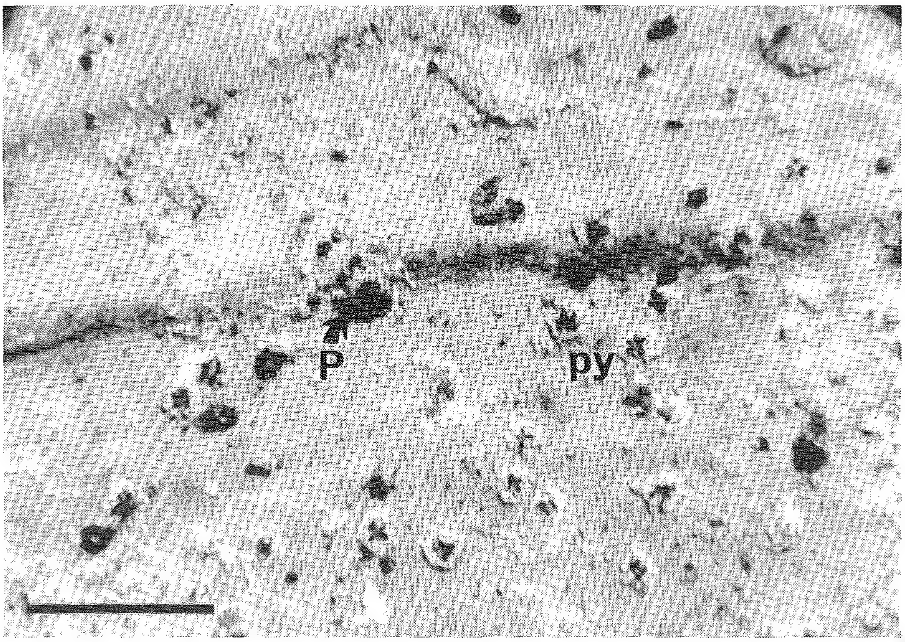

Fig. 1. *Anisomeridium foliicola*: perithecia (P) and pycnidia (py) (Fiji, Smith 9233). Scale = 1 mm.

**Arthonia cyanea Muell. Arg.

Specimens examined: Queensland. WIDE BAY DISTRICT: 10 km SW of Nambour, Kondalilla National Park, 26°41'S, 152°54'E, alt. c. 380 m, in rather open gully in subtropical rainforest, on leaves of *Cordyline*, 1981, *Tibell* 12570a.

Distribution: *Arthonia cyanea* is a widely distributed species, known for example from the West Indies, South America, the Philippines and the Moluccas and recently reported from Africa (Serusiaux 1984, Farkas 1987).

Notes and Observations: *Arthonia cyanea* and *A. trilocularis* are the first foliicolous *Arthonia* species to be reported from Australia.

****Arthonia trilocularis** Muell. Arg.

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of rainforest, 1983, *Tibell* 14331; 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, alt. c. 960 m, in montane rainforest, 1983, *Tibell* 14420 (with *Microtheliopsis uleana*) and 14421 (with *Badimia polillensis*). **New South Wales.** SOUTH COAST: Batemans Bay, 1884, *F. v. Mueller* (UPS).

Distribution: A pantropical species previously known *i.a.* from Papua-New Guinea.

Aspidothelium fugiens (Muell. Arg.) R. Sant.

Distribution: A pantropical species previously reported from one locality in Queensland.

****Aulaxina dictyospora** R. Sant.

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Acronychia pubescens*, 1981, *Tibell* 12730; Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12690a (with *Gyalectidium filicinum*). **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12472.

Distribution: A rare species previously reported only for Brazil (Santesson 1952) and Venezuela (Hertel 1974).

Aulaxina epiphylla (Zahlbr.) R. Sant.

Distribution: A widely distributed species in tropical areas, but not known from Neotropica; previously reported from one locality in Queensland.

****Aulaxina opegraphina** Fée

Specimens examined: Queensland. COOK DISTRICT: 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek at intersection with the Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest area, 1983, *Tibell* 14552.

Distribution: A widely distributed, probably pantropical species previously known from Papua-New Guinea, Fiji, the Philippines, Java, South America and Africa.

****Bacidia apiahica** (Muell. Arg.) Zahlbr.

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on ?*Sarcopteryx stipitata*, 1981, *Tibell* 12628. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Linospadix monostachya*, 1981, *Tibell* 12476.

Distribution: *Bacidia apiahica* is a pantropical species, known *i.a.* from New Zealand.

Notes and Observations: Several species of *Bacidia sens. lat.* have recently been described. Reviews have been published by Vězda (1975b, 1980). A discussion of the variability of *B. apiahica* and the relationship to other species is given by Vězda (1983).

****Bacidia mastothallina** Vainio

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14328 (with *Porina albicera*), 14331; 22 km ESE of Milla Milla, Crawfords Lookout, along Palmerston Highway, 17°37′S, 145°47′E, alt. c. 360 m, 1983, *Tibell* 14560c.

Distribution: A species with Southeast Asian–Australian distribution previously reported for Papua-New Guinea, Sumatra, Java and the Philippines.

Bacidia pallidocarnea (Muell. Arg.) Zahlbr.

Specimens examined: New South Wales. NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12469.

Distribution: A pantropical species previously reported from one locality in New South Wales.

Badimia polillensis (Vainio) Vězda
Bacidia polillensis (Vainio) Zahlbr.

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16'S, 145°32'E, outskirts of low altitude rainforest, 1983, *Tibell* 14327; 14 km SW of Mossman, Mt Lewis, 16°34'S, 145°16'E, alt. c. 1020 m, in montane rainforest, 1983, *Tibell* 14621; ditto, 16°35'S, 145°17'E, alt. c. 960 m, 1983, *Tibell* 14421; Atherton Tableland, 18 km E of Atherton, Lake Eacham, 17°17'S, 145°37'E, alt. c. 720 m, in montane rainforest, 1983, *Tibell* 15384.

Distribution: *Badimia polillensis* is previously reported for the Philippines, Sumatra and Papua-New Guinea (Santesson 1952, Serusiaux 1986).

Notes and Observations: Vězda (1986) established the genus *Badimia* to accommodate six species previously included in the large genus *Bacidia* and characterized *i.a.* by special campylidia with a very strange type of conidia. Some other species, formerly included in *Bacidia* and *Lopadium*, are very closely related and will most probably also be accepted in *Badimia*. The campylidia and conidia are of the *Pyrenotrichum foliicola*-type. The conidia are long, with hooked ends and lateral appendages. Conidia of *B. polillensis* are shown in **Fig. 2**, those of *B. dimidiata* by Vězda (1986, Abb. 3, Fig. 9c) and *B. elegans* by Vězda (1986, Abb. 4, Fig. 10) and Serusiaux (1986, Figs. 28–31).

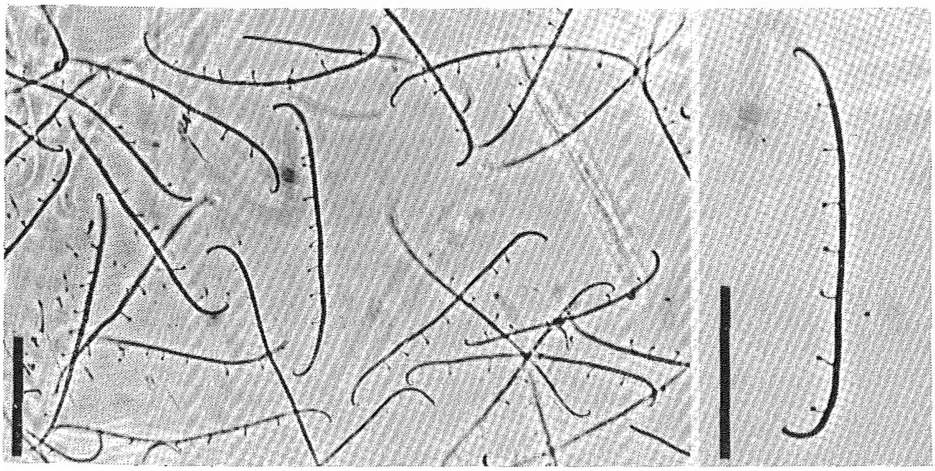

Fig. 2. *Badimia polillensis*: macroconidia from a campylidium (Queensland, Tibell 14621). Scale = 50 µm.

Byssoloma leucoblepharum (Nyl.) Vainio

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16'S, 145°32'E, outskirts of low altitude rainforest, 1983, *Tibell* 14333b; 22 km ESE of Milla Milla, Crawfords Lookout, along Palmerston Highway, 17°37'S, 145°47'E, alt. c. 360 m, 1983, *Tibell* 14560a. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23'S, 152°43'E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12474d; ditto, on *Calamus muelleri*, 1981, *Tibell* 12492b.

Distribution: A pantropical species also extending into warm temperate areas; previously known from three localities in Queensland and one in New South Wales (Shirley 1889, Santesson 1952).

Byssoloma subdiscordans (Nyl.) P. James

Specimens examined: Queensland. COOK DISTRICT: 14 km SW of Mossman, Mt Lewis, 16°35'S, 145°17'E, alt. c. 960 m, on leaves of *Calamus muelleri* and unidentified plant in montane rainforest, 1983, *Tibell* 14423, 14427, 14463; Atherton Tableland, 18 km E of Atherton, Lake Eacham, 17°17'S, 145°37'E, alt. c. 720 m, in montane rainforest, 1983, *Tibell* 15382. WIDE BAY DISTRICT: 6 km N of Jimna, 26°35'S, 152°26'E, alt. 550 m, in open, planted *Araucaria cunninghamii* stand, on *Macrozamia*, 1981, *Tibell* 12779; 34 km NNW of Kilcoy, Jimna, 0.3 km S of the Forest Camp, 26°39'S, 157°27'E, on *Araucaria cunninghamii*, 1981, *Tibell* 12845.

Distribution: *Byssoloma subdiscordans* is a pantropical species, and has previously been reported (partly as *B. rotuliforme* (Muell. Arg.) R. Sant.) for Queensland by Filson (1983).

****Calenia leptocarpa** Vainio

Specimens examined: Queensland. Cook District: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14327.

Distribution: Previously reported only for the Philippines.

Notes and Observations: The genus *Calenia* is newly reported for Australia.

****Calenia thelotremella** Vainio

Specimens examined: Queensland. Cook District: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14326.

Distribution: Previously reported for Papua-New Guinea and Vietnam (Santesson 1952, Vězda 1977).

***Calopadia fusca** (Muell. Arg.) Vězda

Lopadium fuscum Muell. Arg.

Specimens examined: New South Wales. North Coast: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12474c; ditto, 1981, *Tibell* 12486a; ditto, on *Calamus muelleri*, 1981, *Tibell* 12489.

Distribution: A pantropical species previously reported from one locality in Queensland.

Notes and Observations: The genus *Calopadia* was established by Vězda (1986) for species of the *Lopadium fuscum*-group.

Numerous campylidia of the *Pyrenotrichum splitgerberi*-type were found in n. 12486a.

Calopadia puiggarii (Muell. Arg.) Vězda

Lopadium puiggarii (Muell. Arg.) Zahlbr.

Specimens examined: Queensland. Wide Bay District: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Diospyros pentamera*, 1981, *Tibell* 12623; ditto, 12629; Imbil, 1920, Cleland (UPS). Moreton District: Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12689. **New South Wales.** North Coast: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12467; ditto, on *Calamus muelleri*, 1981, *Tibell* 12491.

Distribution: A pantropical species previously known from one locality each in Queensland and New South Wales.

Notes and Observations: Campylidia of the *Pyrenotrichum splitgerberi*-type were found in n. 12491 and 12629.

Dimerella epiphylla (Muell. Arg.) Malme

Distribution: A pantropical species previously reported from one locality in New South Wales.

****Dimerella fallaciosa** (Muell. Arg.) Vězda

Specimens examined: Queensland. Cook District: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14325 (with *Dimerella hypophylla*). **New South Wales.** North Coast: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Bosistoa floydii*, 1981, *Tibell* 12504b, 12505. South Coast: Batemans Bay, 1887, *F. v. Mueller* (G).

Distribution: A pantropical species.

Notes and Observations: This species was included in *D. lutea* (Dickson) Trevis. by Santesson (1952). Vězda, however, considered it a distinct species, a position agreed to here. The thallus in *D. fallaciosa* is usually epiphyllous, and similar to that of *D. zonata* (Muell. Arg) R. Sant., but differs in not having a distinct hypothallus. The apothecia are hypophyllous, and usually located to the edge of the leaf. *Dimerella fallaciosa* has been distributed by Vězda (Lich. exs. 1721) and Kalb (Lich. Neotrop. 90), both from Brazil.

****Dimerella hypophylla** Vězda

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14325.

Distribution: A pantropical species reported for Africa, South America, Cuba and Sumatra.

Dimerella zonata (Muell. Arg.) R. Sant.

Distribution: A pantropical species previously reported from one locality in Queensland (Müller-Argoviensis 1890, Santesson 1952).

***Echinoplaca epiphylla** Fée

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on ?*Sarcopteryx stipitata*, 1981, *Tibell* 12360; Imbil, 1920, *Cleland* (UPS). **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12492b (with *Byssoloma leucoblepharum*).

Distribution: A pantropical species previously reported from one locality in Queensland.

Echinoplaca leucotrichoides (Vainio) R. Sant.

Distribution: A pantropical species previously reported from one locality in Queensland.

Echinoplaca pellicula (Muell. Arg.) R. Sant.

Distribution: A pantropical species previously reported from one locality in Queensland.

****Fellhanera dominicana** (Vainio) Vězda
Bacidia dominicana (Vainio) Zahlbr.

Specimens examined: New South Wales. NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12489.

Distribution: Previously only reported for the West Indies and South America.

Notes and Observations: The genus *Fellhanera* was established by Vězda in 1986 to accomodate a number of species previously referred to *Bacidia*, *Catillaria* and *Lopadium*. It was included in Pilocarpaceae.

****Fellhanera semecarpi** (Vainio) Vězda
Catillaria semecarpi Vainio

Specimens examined: New South Wales. NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12470 (with *Bacidia pallidocarnea*, 12469).

Distribution: A rare species previously reported *i.a.* for Brazil, Tanzania and the Philippines (Santesson 1952). It was reported from Guinea by Vězda (1975a).

Notes and Observations: A key to the foliicolous *Catillaria* species, including the recently described ones was published by Vězda (1980).

Fellhanera subternella (Nyl.) Vězda
Bacidia subternella (Nyl.) R. Sant.

Distribution: A rare pantropical species reported for Australia (Queensland) by Filson (1983). We have seen Australian specimens and can confirm its presence in the continent.

Notes and Observations: It seems very probable that the previously reported foliicolous specimens of *Bacidia leucoloma* (Muell. Arg.) Zahlbr. (Filson 1965) refer to this species.

****Gyalectidium caucasicum** (Elenkin & Woronichin) Vězda

Specimens examined: Queensland. Cook District: Atherton Tableland, 15 km E of Malanda, close to Bora Ground, 17°22′S, 145°45′E, alt. c. 700 m, fringe of montane rainforest, 1983, *Tibell* 15375b.

Distribution: A pantropical species.

Gyalectidium filicinum Muell. Arg.

Specimens examined: Queensland. Wide Bay District: 10 km SW of Nambour, Kondalilla National Park, 26°41′S, 152°54′E, alt. c. 380 m, in rather open gully in subtropical rainforest, 1981, *Tibell* 12572. Moreton District: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Akania lucens*, 1981, *Tibell* 12733b (with *Porina impressa*); ditto, on *Acronychia pubescens*, 1981, *Tibell* 12729; Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655d; Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, *Tibell* 12690a. **New South Wales.** North Coast: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12468; ditto, 1981, *Tibell* 12474d (with *Byssoloma leucoblepharum*).

Distribution: A pantropical species previously reported from three localities in Queensland and one in New South Wales.

****Lasioloma arachnoideum** (Krempelh.) R. Sant.

Specimens examined: Queensland. Cook District: 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, alt. c. 960 m, in montane rainforest, 1983, *Tibell* 14427; Atherton Tableland, 15 km E of Malanda, close to Bora Ground, 17°22′S, 145°45′E, alt. c. 700 m, rainforest fringe, 1983, *Tibell* 15376a (with *Porina lucida*). Wide Bay District: 25km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Diospyros pentamera*, 1981, *Tibell* 12622; ditto, on *Cordyline*, 1981, *Tibell* 12634.

Distribution: A pantropical species previously reported *i.a.* for Papua-New Guinea.

Notes and Observations: The genus *Lasioloma* is here newly reported for Australia.

****Loflammia gabrielis** (Muell. Arg.) Vězda
Bacidia gabrielis (Muell. Arg.) Zahlbr.

Specimens examined: Queensland. Cook District: 27km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14332.

Distribution: A pantropical species previously reported for Papua-New Guinea, the Philippines, Sumatra, South America and Africa.

Notes and Observations: *Loflammia* Vězda (1986) includes a few species previously referred to *Lopadium* and *Bacidia.*

***Mazosia melanophthalma** (Muell. Arg.) R. Sant.

Specimens examined: Queensland. Cook District: 27km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14331 (with *Bacidia mastothallina*). South Kennedy District: 66 km W of Mackay, Eungella National Park, along Broken River, 21°11′S, 148°20′E, fringe of rainforest, 1983, *Tibell* 14700a. **New South Wales.** North Coast: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12493.

Distribution: A pantropical species previously reported from one locality in Queensland.

Mazosia phyllosema (Nyl.) Zahlbr.

Specimens examined: Queensland. Cook District: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14331 (with *Bacidia mastothallina*); 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, in montane rainforest, 1983, *Tibell* 14419. Wide Bay District: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Calamus muelleri*, 1981, *Tibell* 12627b; 10 km SW of Nambour, Kondalilla National Park, 26°41′S, 152°54′E, alt. c. 380 m, in rather open gully in subtropical rainforest, on *Cordyline*, 1981, *Tibell* 12570b. Moreton District: Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655a; ditto, 1981, *Tibell* 12658a.

Distribution: A pantropical species previously reported from six localities in Queensland.

****Microtheliopsis uleana** Muell. Arg.

Specimens examined: Queensland. COOK DISTRICT: 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, in montane rainforest, 1983, *Tibell* 14420. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, 1981, *Tibell* 12483.

Distribution: A pantropical species occurring *i.a.* in Papua-New Guinea.

Notes and Observations: The genus *Microtheliopsis* is here newly reported for Australia.

***Opegrapha puiggarii** Muell. Arg.

Specimens examined: Queensland. COOK DISTRICT: Atherton Tableland, 18 km E of Atherton, Lake Eacham, 17°17′S, 145°37′E, alt. c. 720 m, in montane rainforest, 1983, *Tibell* 15383. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12492c, 12499b; ditto, on *Rhipogonum discolor*, 1981, *Tibell* 12497.

Distribution: A pantropical, not very common species previously reported from one locality in Queensland.

****Phyllobathelium nigrum** R. Sant. & Tibell, **sp. nov.**

Thallus tenuis continuus, laevigatus, cinereus vel glauco-cinereus. Perithecia simplicia, nuda, nigra, superne verrucis paucis (4–6) ornata. Paries peritheciorum interior incoloratus. Paraphyses simplices, 1–1.5 µm crassae. Asci bitunicati, clavati. Sporae 4nae, raro 2nae, incolores, murali-divisae, fusiformes, 95–115 µm × 9–14 µm. Pycnidia subimmersa, 5–7(–8) circulatim aggregata. Conidia 3-septata, fusiformia, 18–23 µm × 3–4 µm. Alga verosimiliter ad Trentepohliam pertinens. **Fig. 3.**

Typus: Fiji Islands. Taveuni: slopes of Mt Manuka, E of Wairiki. Alt. 300-600 m. On leaves in a dense forest. 3–14 Aug. 1953, *A.C. Smith* n. 8174 (holo: US; iso: UPS).

Thallus up to 12 mm across, continuous, smooth, pale grey to glaucous grey, nitidous, 15–25 µm thick. No distinct hypothallus. Perithecia simple with an angular upper part and constricted base, 0.20–0.25 mm across and c. 0.2 mm high, black, naked. On the upper part of the perithecia 4–6 black, ovoid masses with more or less amorphous structure are arranged to form a somewhat star-like figure with the ostiole in the centre. The black masses are 75–175 µm × 50–75 µm and 75–90 µm high. Inner perithecial wall colourless more or less paraplectenchymatous. Perithecial chamber c. 150 µm in diameter. Paraphyses simple, free, septate, 1–1.5 µm thick. Asci clavate, 95–120 µm × 20–25 µm, bitunicate, thick walled, with a small apical chamber. Spores usually 4, rarely 2 in the asci, fusiform, colourless, muriform with 20–30 transsepta and 1–3 longisepta, 95–115 µm × 9–14 µm. Pycnidia semi-immersed, aggregated, 5–7(–8) forming more or less circular groups, each pycnidium c. 0.05 mm in diameter, the groups 0.5–0.7 mm across. Pycnidial wall dark brown, the upper part naked. Conidia when mature always 3-septate, narrowly fusiform, straight, 18–23 µm × 3–4 µm. Photobiont probably a *Trentepohlia* species. Cells somewhat angular, 5–6(–7) µm across.

Specimens examined: Queensland. COOK DISTRICT: Atherton Tableland, 15 km E of Malanda, close to Bora Ground, 17°22′S, 145°45′E, alt. c. 700 m, rainforest fringe, 1983, *Tibell* 15373, 15376b.

Further material investigated: Java. Mt Gedeh, Tjibodas, 1950, *Schröter* 5477 (UPS). **Fiji.** Viti Levu: Namosi, N slopes of Korombasambasanga Range, in drainage of Wainavindrau Creek, 1953, *Smith* 8710 (US).

Distribution: The three *Phyllobathelium* species previously known seem to be exclusively neotropical. *P. nigrum* is so far known only from Java, Australia and Fiji.

Notes and Observations: The occurrence of black amorphous to pulverulent structures on the upper part of the perithecial wall is characteristic for all *Phyllobathelium* species. In contrast to conditions in previously known species in the genus, *P. nigrum* has naked black structures not covered by any algiferous thallus tissue. Furthermore the new species is characterized by the small perithecia and circularly-arranged pycnidia. It differs from species with simple perithecia also in that the asci contain only four, long and relatively narrow spores.

Phyllobathelium is here newly reported for Australia.

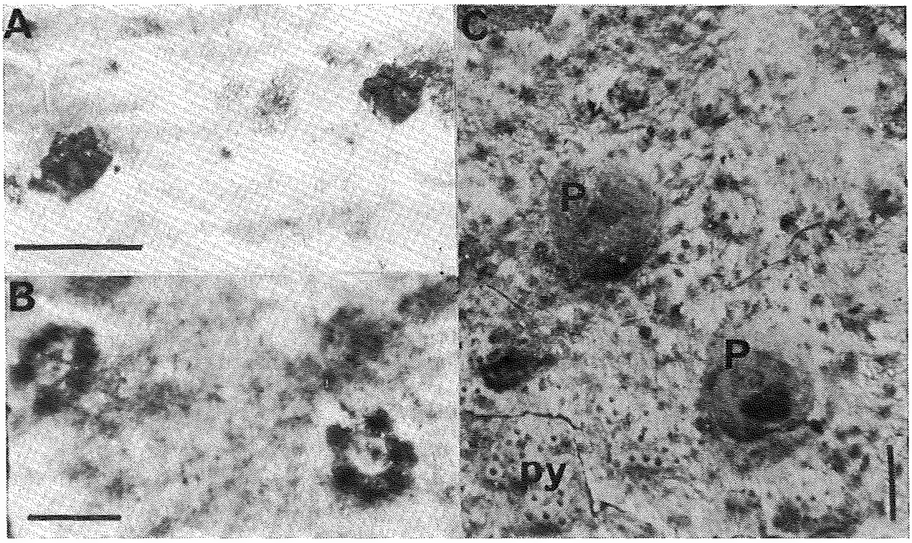

Fig. 3. *Phyllobathelium nigrum*: A. two groups of perithecia. B. pycnidia. *P. epiphyllum*: C. two perithecia (P) and groups of pycnidia (py). A Fiji, Smith 8174. B Queensland, Tibell 14330. C Brazil, Malme 896a. Scales: A = 0.5 mm; B = 0.2 mm; C = 0.5 mm.

***Phylloporis multipunctata** (R. Sant.) Vězda

Porina multipunctata R. Sant.

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Calamus muelleri*, 1981, *Tibell* 12627c. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12474b.

Distribution: A pantropical species previously known from one locality in Queensland.

Notes and Observations: The genus *Phylloporis* Clements, i.e. the *Porina phyllogena*-group in Santesson (1952), was re-established by Vězda (1984), who emphasized its close affinity to *Strigula*. Recently a number of corticolous species have been referred to *Strigula* making it somewhat more heterogeneous. The inclusion of *Phylloporis* in *Strigula* perhaps now seems more natural.

The spores in *P. multipunctata* are easily fragmented into two parts. Unfortunately this was not mentioned in the description of the species (Santesson 1952). Easily fragmented spores also occur in *Strigula concreta* (Fée) R. Sant. and *S. nitidula* Mont., and, although not so frequently, in *S. schizospora* R. Sant. and *Raciborskiella janeirensis* (Muell Arg.) R. Sant. Thus the recognition of a var. *schizospora* Vězda (Vězda 1975) seems unwarranted, a position also later shared by Vězda (1984).

***Phylloporis obducta** (Muell. Arg.) R. Sant. & Tibell, **comb. nov.**

Phylloporina obducta Muell. Arg., Flora 73: 198 (1890). **Lectotype:** Brazil, Glaziou 18086 (G), designated by Santesson (1952: 213).

Porina obducta (Muell. Arg.) Schilling

Specimens examined: New South Wales. NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Rhipogonum discolor*, 1981, *Tibell* 12469 (with *Bacidia pallidocarnea*).

Distribution: A pantropical species previously known from two localities in Queensland.

****Phylloporis phyllogena** (Muell. Arg.) Clements
Porina phyllogena Muell. Arg.

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Calamus muelleri*, 1981, *Tibell* 12627a. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Sarcopetalum harveyanum*, 1981, *Tibell* 12723.

Distribution: A pantropical species occurring *i.a.* in Papua-New Guinea.

****Porina albicera** (Krempelh.) van Overeem-de Haas

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14328.

Distribution: Previously known from the Philippines, Malaysia and Vietnam, but also collected in the Ivory Coast (1954, *Santesson*, UPS - unpublished).

Porina conica R. Sant.

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14328 (with *P. albicera*), 14331; 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14552 (with *Aulaxina opegraphina*). SOUTH KENNEDY DISTRICT: 66 km W of Mackay, Eungella National Park, 21°11′S, 148°20′E, fringe of rainforest, 1983, *Tibell* 14700b.

Distribution: A species occurring in Southeast Asia, Australia and Africa (Ivory Coast, 1954, Santesson, unpublished); previously reported from one locality in Queensland.

Porina epiphylla (Fée) Fée var. **epiphylla**

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14328 (with *P. albicera*), 14331 (with *Bacidia mastothallina*); 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, alt. c. 960 m, in montane rainforest, 1983, *Tibell* 14420; 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14552 (with *Aulaxina opegraphina*). SOUTH KENNEDY DISTRICT: 66 km W of Mackay, Eungella National Park, along Broken River, 21°11′S, 148°20′E, fringe of rainforest, 1983, *Tibell* 14700c (and with *P. conica*, 14700b). WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Diospyros pentamera*, 1981, *Tibell* 12624; ditto, on *Calamus muelleri*, 1981, *Tibell* 12625. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Akania lucens*, 1981, *Tibell* 12733a; Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655c; ditto, 1981, *Tibell* 12657 (with *Strigula subtilissima*); Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, in montane rainforest, 1981, *Tibell* 12652. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12492a; ditto, on *Rhipogonum discolor*, 1981, *Tibell* 12495; ditto, on *Lomandra* sp., 1981, *Tibell* 12512.

Distribution: One of the most widely distributed and most common foliicolous lichens. Abundant in several of the localities reported here; previously reported from six localities in Queensland (Bailey 1895, Santesson 1952).

Porina epiphylla (Fée) Fée var. **atriceps** Vainio

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14331 (with *Bacidia mastothallina*); 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14552 (with *Aulaxina opegraphina*).

Distribution: A pantropical taxon previously reported from three localities in Queensland.

****Porina fulvella** Muell. Arg.

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Sarcopetalum harveyanum*, 1981, *Tibell* 12723 (with *Phylloporis phyllogena*); Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12653; ditto 1981, *Tibell* 12656. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Bosistoa floydii*, 1981, *Tibell* 12502.

Distribution: A pantropical species reported *i.a.* for Papua-New Guinea.

*Porina impressa R. Sant.

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Akania lucens*, 1981, *Tibell* 12733b; ditto, 1981, *Tibell* 12725; Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655b. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12492c, 12501; ditto, on *Rhipogonum discolor*, 1981, *Tibell* (with *Phylloporis multipunctata*).

Distribution: Previously reported from some localities in Queensland (Santesson 1952, Conran & Rogers 1983).

Notes and Observations: The only foliicolous species so far known to be endemic to Australia.

*Porina limbulata (Krempelh.) Vainio

Specimens examined: Queensland. COOK DISTRICT: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14333a; 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, alt. c. 960 m, in montane rainforest, 1983, *Tibell* 14421 (with *Badimia polillensis*), 14425. **New South Wales.** NORTH COAST: Dorrigo National Park, along Wonga Walk, 4.5 km E of Dorrigo, 30°23′S, 152°43′E, alt. c. 650 m, on *Calamus muelleri*, 1981, *Tibell* 12498.

Distribution: A common, pantropical species earlier reported from two localities in Queensland.

Porina lucida R. Sant.

Specimens examined: Queensland. COOK DISTRICT: Atherton Tableland, 15 km E of Malanda, close to Bora Ground, 17°22′S, 145°45′E, alt. c. 700 m, rainforest fringe, 1983, *Tibell* 15375b (with *Gyalectidium caucasicum*), 15376a; 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14552 (with *Aulaxina opegraphina*).

Distribution: A species restricted to Southeast Asia and Australasia; previously reported from two localities in Queensland.

**Porina nitidula Muell. Arg.

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Calamus muelleri*, 1981, *Tibell* 12626; ditto, on *Diospyros pentamera*, 1981, *Tibell* 12621.

Distribution: A pantropical species rare in Asia and Australasia.

*Porina rufula (Krempelh.) Vainio

Specimens examined: Queensland. COOK DISTRICT: 14 km SW of Mossman, Mt Lewis, 16°35′S, 145°17′E, alt. c. 960 m, in montane rainforest, 1983, *Tibell* 14418.

Distribution: A common, pantropical species previously reported from one locality in New South Wales.

Porina semecarpi Vainio

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Akania lucens*, 1981, *Tibell* 12732; ditto, on *Sarcopetalum harveyanum*, 1981, *Tibell* 12722; Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655e; ditto, 1981, *Tibell* 12658b; Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12690e. **New South Wales.** NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, on *Rhipogonum discolor*, 1981, *Tibell* 12474f; ditto, on *Calamus muelleri*, 1981, *Tibell* 12488, 12492d, 12497.

Distribution: A widely distributed species, which, however, so far has not been reported from Neotropica; previously reported from three localities in Queensland and one in New South Wales.

Porina virescens (Krempelh.) Muell. Arg.

Specimens examined: Queensland. Cook District: 27 km NNE of Mossman, Mt Alexandra, 16°16′S, 145°32′E, outskirts of low altitude rainforest, 1983, *Tibell* 14328 (with *P. albicera*), 14329; 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14552 (with *Aulaxina opegraphina*).

Distribution: A species restricted to Southeast Asia and Australasia and previously reported from one locality in Queensland.

****Raciborskiella janeirensis** (Muell. Arg.) R. Sant.

Specimens examined: Queensland. Cook District: 22km ESE of Milla Milla, Crawfords Lookout, along Palmerston Highway, 17°37′S, 145°47′E, alt. c. 360 m, 1983, *Tibell* 14559. **New South Wales.** North Coast: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Bosistoa floydii*, 1981, *Tibell* 12504.

Distribution: A pantropical species previously known *i.a.* from Papua-New Guinea.

Notes and Observations: The genus *Raciborskiella* is here newly reported for Australia.

****Raciborskiella prasina** (Muell. Arg.) R. Sant.

Specimens examined: Queensland. South Kennedy District: 66 km W of Mackay, Eungella National Park, along Broken River, 21°11′S, 148°20′E, fringe of rainforest, 1983, *Tibell* 14699.

Distribution: A pantropical species previously known *i.a.* from New Zealand, Sumatra, Java and the Philippines.

****Sporopodium leprieurii** Mont.

Specimens examined: Queensland. Cook District: 30 km WSW of Innisfail, Palmerston National Park, Henrietta Creek, at intersection with Palmerston Highway, 17°37′S, 145°45′E, alt. c. 400 m, in rainforest, 1983, *Tibell* 14553.

Distribution: A pantropical species previously known from Papua-New Guinea, the Philippines, Java, Sumatra, Africa and South America.

****Sporopodium phyllocharis** (Mont.) Massal. var. **phyllocharis**

Specimens examined: Queensland. Wide Bay District: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Cryptocarya bowiei*, 1981, *Tibell* 12631. Moreton District: Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12655f.

Distribution: This pantropical taxon is previously known from Papua-New Guinea, the Philippines, Java, Tonga, Samoa and Society Islands, Africa and South America.

Sporopodium phyllocharis var. **flavescens** R. Sant.

Specimens examined: Queensland. Moreton District: Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12688. **New South Wales.** North Coast: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Rhipogonum discolor*, 1981, *Tibell* 12465.

Distribution: A taxon restricted to Australia and New Caledonia; previously reported from three localities in Queensland and one in New South Wales (Shirley 1890, Müller-Argoviensis 1891, Bailey 1893, Santesson 1952).

Notes and Observations: The bright yellow campylidia of the *Pyrenotrichum irregulare*-type are abundant in both specimens cited here (**Fig. 4**). Numerous pycnidia concentrated to the peripheral parts of the thalli are also found in most specimens. Pycnidia hemispherical, c. 0.1 mm in diameter, covered at the base by greyish thallus tissue, naked apically; pale brownish and with a distinct ostiolum. Conidiophores simple, 6–7 µm × 1–1.5 µm. Conidia bacilliform or slightly dumb-bell-shaped, 4.5–5 µm × 0.7–1 µm.

Sporopodium xantholeucum (Muell. Arg.) Zahlbr.

Distribution: A pantropical species, previously reported from one locality in Queensland.

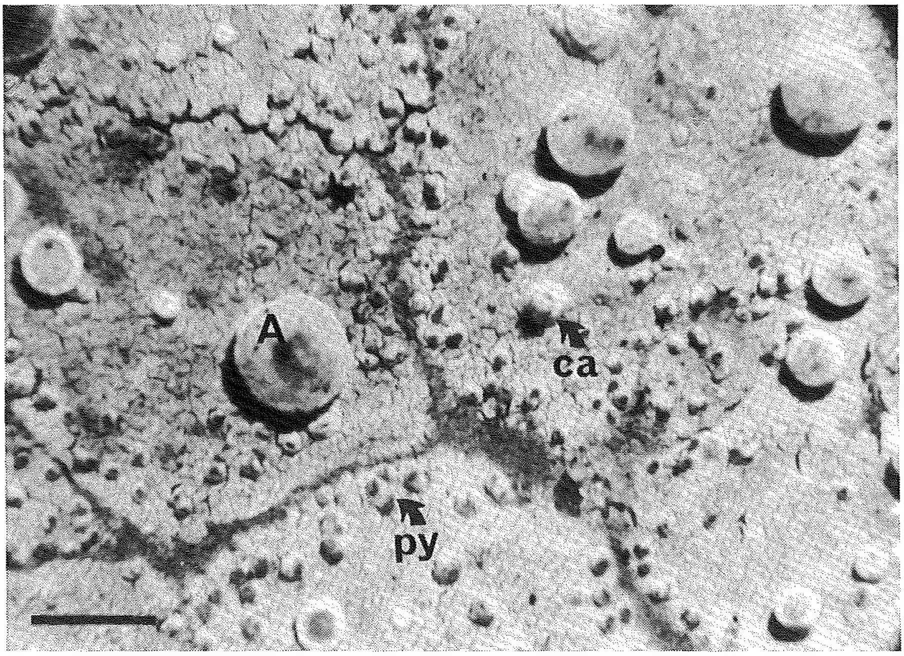

Fig. 4. *Sporopodium phyllocharis* var. *flavescens*: apothecia (A), one campylidium (ca) and numerous pycnidia (py) concentrated to the peripheral parts of the individual thalli (New South Wales, Tibell 12465). Scale = 1 mm.

Strigula elegans (Fée) Muell. Arg.

Specimens examined: New South Wales. NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Sarcopteryx stipitata*, 1981, *Tibell* 12513.

Distribution: A very common pantropic species also extending into subtropical areas; previously reported from four localities in Queensland and one in New South Wales (Müller-Argoviensis 1895, Santesson 1952).

****Strigula macrocarpa** Vainio

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, on *Wilkiea*, 1981, *Tibell* 12651.

Distribution: A species occurring in Africa, Southeast Asia and Australasia.

Strigula maculata (Cooke & Massee) R. Sant.

Distribution: A pantropical species previously reported from two localities in Queensland.

Strigula nemathora Mont.

Distribution: A pantropical species previously reported from one locality in Queensland.

***Strigula nitidula** Mont.

Specimens examined: Queensland. COOK DISTRICT: 22 km ESE of Milla Milla, Crawfords Lookout, along Palmerston Highway, 17°37′S, 145°47′E, alt. c. 360 m, 1983, *Tibell* 14560b. **New South Wales.** NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Bosistoa floydii*, 1981, *Tibell* 12503.

Distribution: A common, pantropical species previously reported from one locality in Queensland.

Strigula subtilissima (Fée) Muell. Arg.

Specimens examined: Queensland. WIDE BAY DISTRICT: 25 km WNW of Nambour, 3 km N of Kenilworth, 26°34′S, 152°44′E, alt. 90 m, at small creek in subtropical rainforest, on *Cordyline*, 1981, *Tibell* 12633b. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, 1981, *Tibell* 12724; Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12690d; Lamington National Park, 13 km SW of Beechmont, along Blue Pool Track, 28°02′S, 152°56′E, alt. c. 670 m, in subtropical rainforest, 1981, *Tibell* 12657. **New South Wales.** NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Rhipogonum discolor*, 1981, *Tibell* 12471.

Distribution: A common, pantropical species previously known from one locality each in Queensland and New South Wales.

***Tapellaria phyllophila** (Stirton) R. Sant.

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Acronychia pubescens*, 1981, *Tibell* 12730 (with *Aulaxina dictyospora*), 12729 (with *Gyalectidium filicinum*). **New South Wales.** NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Rhipogonum discolor*, 1981, *Tibell* 12467 (with *Calopadia puiggarii*).

Distribution: A pantropical species previously reported from two localities in New South Wales.

Tricharia vainioi R. Sant.

Distribution: A pantropical species previously reported from one locality in Queensland.

Trichothelium alboatrum Vainio

Distribution: A widely distributed species, but not known from Neotropica; previously reported from one locality in Queensland.

****Trichothelium epiphyllum** Muell. Arg.

Specimens examined: Queensland. COOK DISTRICT: 22 km ESE of Milla Milla, Crawfords Lookout, along Palmerston Highway, 17°37′S, 145°47′E, alt. c. 360 m, 1983, *Tibell* 14558.

Distribution: A pantropical species common in Neotropica but otherwise rare; reported from South and Central America, Africa, the Philippines and Papua-New Guinea.

****Trichothelium minus** Vainio

Specimens examined: Queensland. MORETON DISTRICT: Lamington National Park, 9 km S of Beechmont, Tullawallah, 28°01′S, 153°00′E, in subtropical rainforest, on *Acronychia pubescens*, 1981, *Tibell* 12728; ditto, on *Akania lucens*, 1981, *Tibell* 12731; Lamington National Park, Morans Falls, 28°02′S, 152°56′E, alt. c. 700 m, in wet sclerophyll forest, on *Denhamia pittosporoides*, 1981, *Tibell* 12690b. **New South Wales.** NORTH COAST: Dorrigo National Park, 4.5 km E of Dorrigo, along Wonga Walk, 30°23′S, 152°43′E, alt. c. 650 m, in subtropical rainforest, on *Rhipogonum discolor*, 1981, *Tibell* 12473; ditto, on *Calamus muelleri*, 1981, *Tibell* 12490.

Distribution: A species previously only reported for Neotropica.

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